

# Kankakee River Watershed Conference

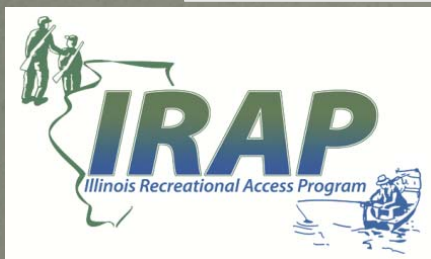
February 10<sup>th</sup>, 2017

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Illinois Department of Natural Resources

Private Lands and Watersheds Division

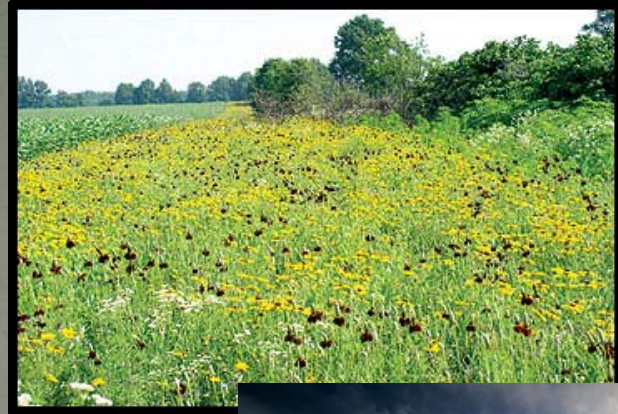
## Private Lands Programs that Contribute to Watershed Initiatives





# Land in Illinois

- Illinois ~ 95% private land
- Majority of habitat exists on private land.
- Majority of watershed areas are held privately.
- Lots of agricultural/forestland or ag/grassland interface.





# Disturbance

Historical

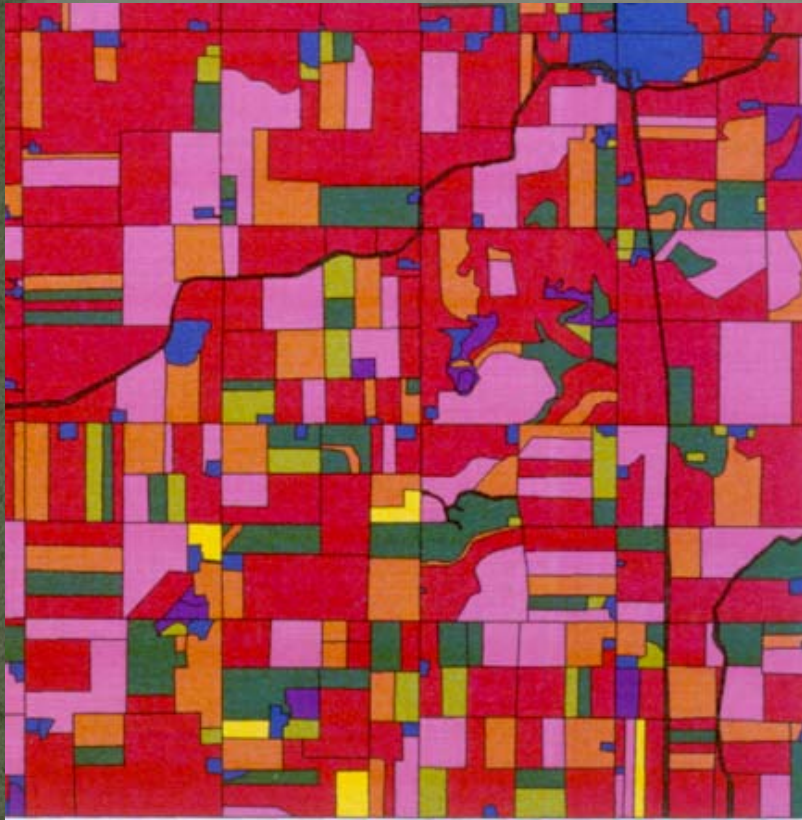


Mimic Historical

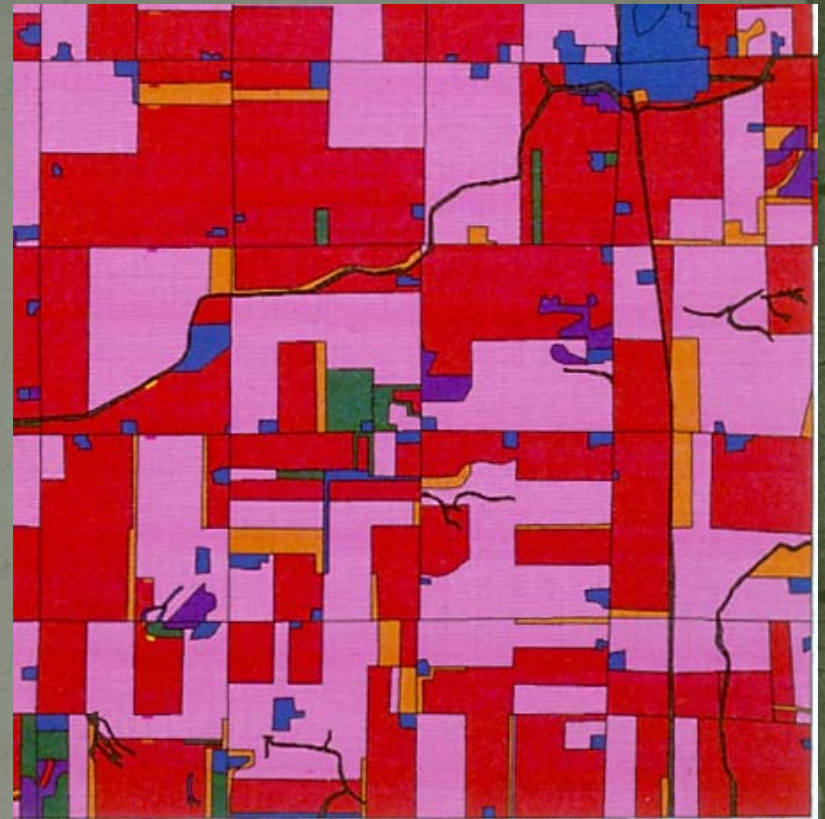




# Change in Land Use



ca 1960



ca 2010





## Invasion of Non-Native Species: Increase in Soil Erosion



Grow faster than natives in when new light is available

Native species need light -  
Disturbance

Reduce native herbaceous  
vegetation

Often have shallow root systems

Reduced herbaceous vegetation  
leads to erosion issues.



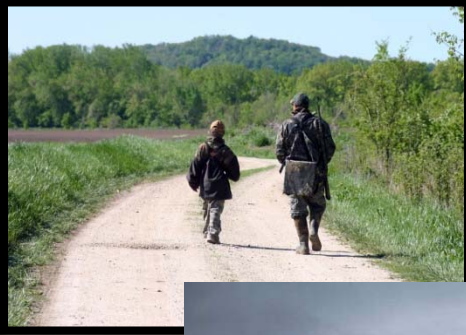
## Why Management is Necessary

- Promotes native species
- Mimics natural disturbance
- Promotes herbaceous ground layer
- Reduces Soil Erosion in the area.
- Improves water quality
- Improved wildlife habitat.
- No Management = Scrub brush + erosion problems + no wildlife value.





# Programs



- Illinois Recreational Access Program
- Forest Development Act
- Conservation Reserve Enhancement Program (State Easements)
- Conservation Stewardship Program
- NGO's
- IL EPA 319 Grants
- USFWS Partners Program
- USDA Programs(EQIP, CRP)





# IRAP

Landowners allow controlled public access for certain activities. They receive.

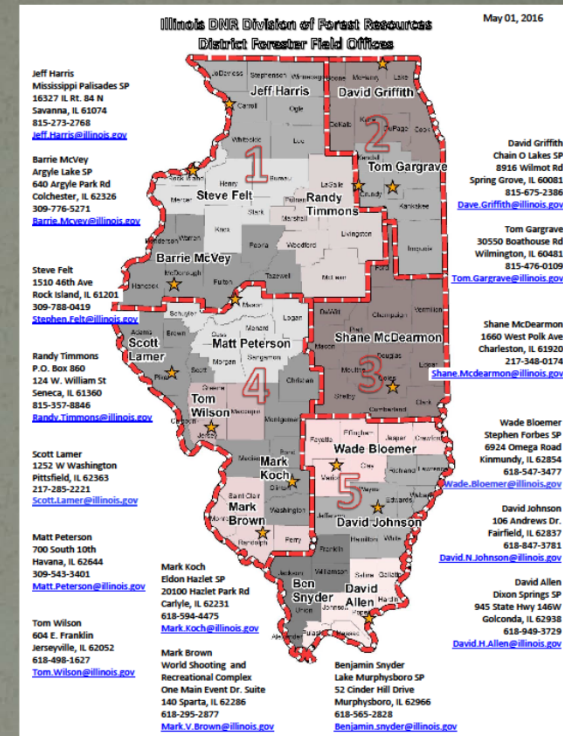
1. Stipend based on acres, stream feet, or by access points.
  2. Wildlife Management Plan.
  3. Liability insurance for IRAP activities.
  4. Possible habitat assistance.
- Activities include youth and adult turkey hunting, archery deer hunting, small game hunting, waterfowl hunting, outdoor naturalist, fishing, and canoeing access.
  - Landowner decides which activities they are willing to allow.

Over 90 Landowners and over 16,000 Ac Enrolled





# Forest Development Act



- IDNR state foresters
- Public and private land
- Foresters can give plan recommendations.
- Post harvest cost share occasionally available
- 9,700 Active Enrollments Covering over 555,000 acres





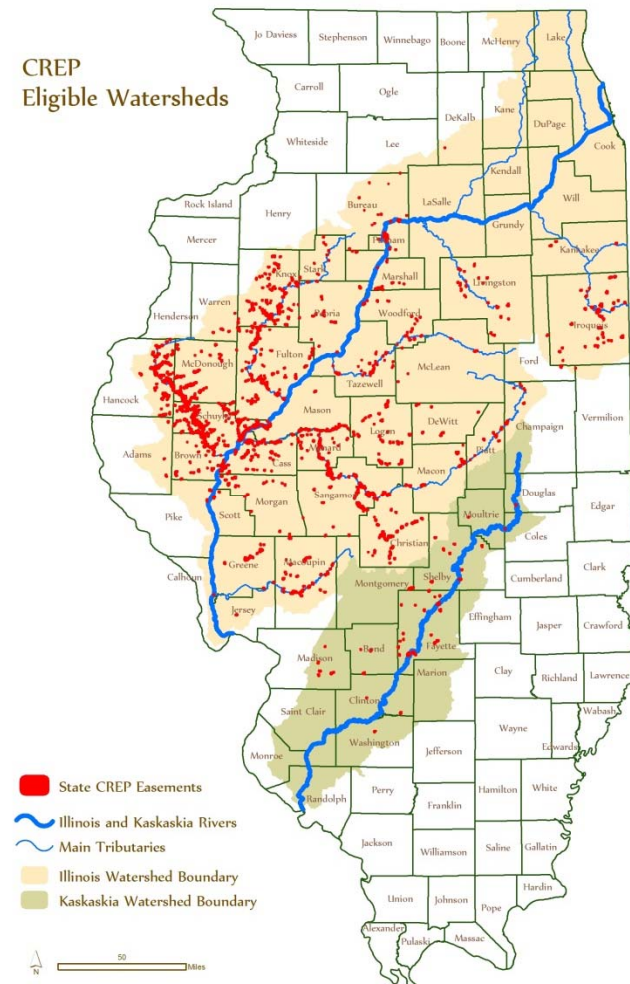
# Conservation Reserve Enhancement Program



- CREP is available in the Illinois and Kaskaskia Watersheds.
- CREP easements from 1998-2002 are starting to revert to state.
- IDNR CREP is on hold pending an Illinois State Budget
- 1,400 Easements on 91,000 acres



CREP  
Eligible Watersheds





# Conservation Stewardship Program (IDNR-CSP)



- Small properties or grassland/wetland properties.
- Landowners receive reduced tax rate for conducting management.
- Offset cost of management with tax savings.
- Conservation Easements
- 2,800 enrollments on over 87,000 acres





# NGO's

- Variety of NGOs that can aid in habitat restoration.
- Pheasants Forever, Quail Forever, NWTF, Audubon Society, Illinois Native Plant Society, Sierra Club, TNC, and many more.
- Use their programs to offset costs of seeding







# IEPA 319 Grants

- IEPA 319 Grants are for improving water quality.
- Generally BMPs in agricultural areas (WASCB, Pond, Waterways)
- Native Plant Regeneration
- Illinois Nutrient Loss Reduction Strategy



IRAP

CP33

319 WASCB

319 Cover Crops





# Southern Illinois Prescribed Burn Association

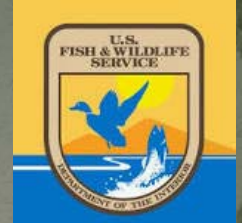


- Landowner Cooperative
- Coordinate Rx Burns
- Landowners become members.
- Have to participate prior to any mngt help.
- Working on similar model for the rest of state.





# US Fish and Wildlife Service



- Partners For Fish and Wildlife Program
- Have cost share available annually, geared to rare and declining habitats.
- Have worked on a variety of Projects





# USDA Programs

- EQIP
- CRP
  - CP 33 – Quail Field Borders
  - CP 42 – Pollinator Habitat
- CREP
- Several other programs



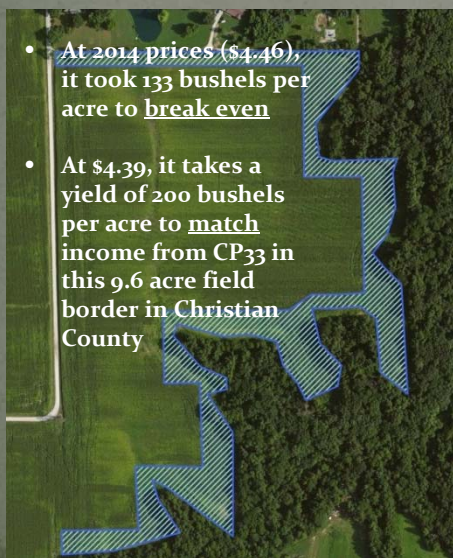


9.6 acres enrolled in  
CP33 for 10 years,  
Net Profit= \$26,627

If farmed for 10 years,  
Net Loss = \$10,562

In the example below, this producer  
would see a net gain of \$26,627 on  
these acres enrolled in CP33 for the  
next 10 years

This producer would lose \$10,562 by  
farming these acres for the next 10  
years (based on 10 year average corn  
price (\$4.17) and 2 year production  
average from yield monitors 117.5  
bu/acre, minus input costs of  
\$600/acre on 9.6 acres



## CP33 Pays In Other Ways Too



## Other Advantages:

- Square up the fields in  
production
- Eliminate wasteful  
spending on less  
productive acres
- Reduce equipment  
damage from trees
- Disperse deer damage

### Wildlife Benefits

- Provides habitat for declining quail,  
pheasant and other grassland birds
- Field borders can boost quail and other  
grassland bird populations by 50-100%
- Wider is better, but every bit helps
- Diverse borders = more food for wildlife
- Provides nesting cover, winter cover, &  
brood habitat

# Increase Farm Profits

with the Conservation Reserve  
Program (CRP)

## Enroll field edges in CP33 “Habitat Buffers for Upland Birds”

- Field borders with  
average width between  
30' – 120'
- Reduces risk and  
increases PROFIT on  
high risk acres
- Sign up payment
- Cost share for  
establishing the practice



## By the Numbers

on 9.6 acres of field edges enrolled in CP33

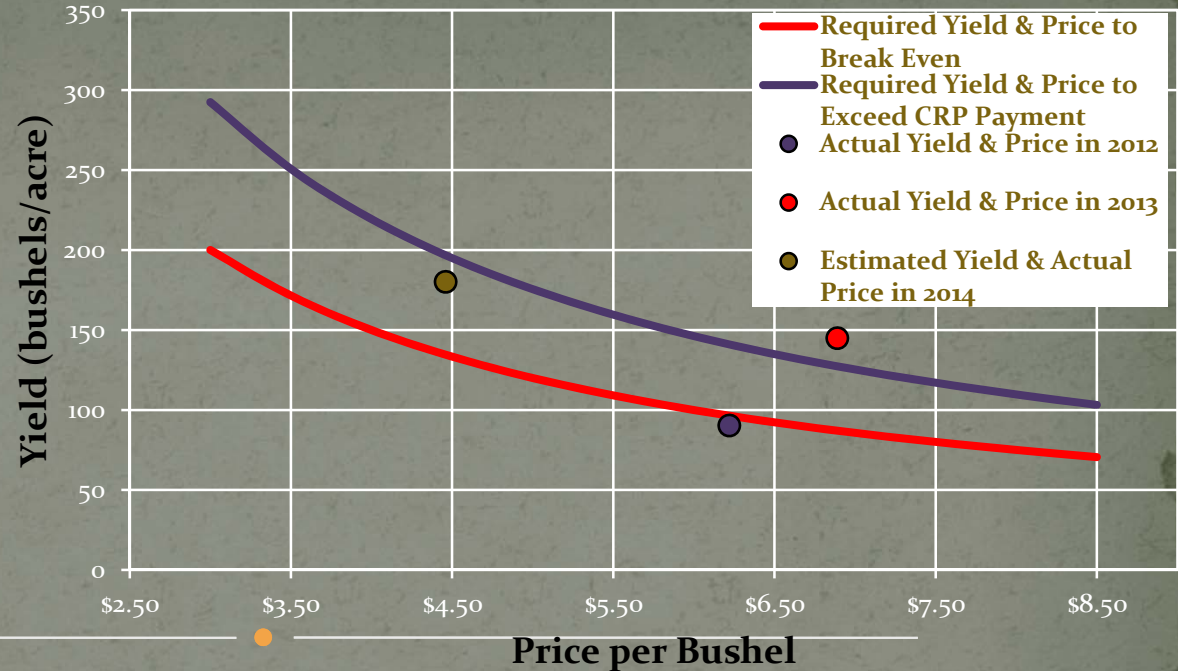
- CRP Soil Rental Rate = \$277.36/acre
- $\$277.36/\text{ac} \times 9.61 \text{ acres} = \$2,662.65$  profit per year



Farming adjacent to grass edges is more economical than timbered edges

For More Information on CP33 in your County, contact your local FSA and NRCS Office

## Profit Threshold if Farming Field Edges



Yield Monitors make it easier to find less productive acres

Current Soil Rental rates are very competitive with today's grain market prices



\*Soil Rental Rate is based on weighted average of soils in the 9.06 acre CP33 area, using 2015 Christian County SRR values



# Using All the Tools

- FOCUS on whole farm management – forest, grassland, and agricultural land.
- Combination of federal, state, and NGO programs.
- Differing properties require different programs.
- Use programs to compliment work being done in other places.





# Habitat Management





# Woody/Herbaceous Invasives Control

## Cut stump method



## Foliar Spraying



# Cut Stump Treatment

Week 1 after cutting



Week 5 after cutting





# Forestry Mowing and Foliar Spraying

Mow paths to access some areas – low sloping areas.



Spray areas within reach of  
hose – spot spraying



# Foliar Spraying

2 weeks after treatment



2 months after treatment





# Girdling

Cut a complete ring around the tree at least 1 ½ in deep (can cut multiple rings at 3 in intervals).

Spray herbicide on the cut area (single cut method).





# Fall Aerial Application as Initial Attack on Dense Stands of Bush Honeysuckle



Spray Line – Taken from Neighbors



# Before and After



October 31, 2014

April 21, 2015







October 31, 2014

May, 2016

April 21, 2015





## Preliminary Results

- Have seen lots of good success.
- Plots tested in July and August which lines up with the studies in Missouri and Iowa.
- Some areas kill was low.
- Conditions that effect spray
  - Wind direction
  - Topography
  - Remaining canopy
  - Natural Landmarks
  - Buffer areas left.
  - Temperature





## Which NNIS Are Effected

### Does not kill:

Autumn/Russian Olive

Multiflora Rose

Locusts



### Does effect

Bush Honeysuckle

Japanese Honeysuckle

Fescue/brome

Garlic mustard



### Suppresses

Bush Honeysuckle

Multiflora Rose





# Collateral Damage & Toxicology Concerns



Christmas  
Fern



Sedges



Gray Treefrog



Overstory and native understory – no unusual mortality noted through 2016\* in Missouri, Iowa, or Illinois



\* Except for Carolina buckthorn (*Rhamnus caroliniana*)



## Considerations and Conclusions

- Works best for heavy infestation
- Avoid low infestation sites that have native plants active
- Will need to watch toxicity to herps and stems of saplings.
- Fall hunters would need to be notified of application date
- Many heavy infestations do not have any diversity under them.
- Instant response to additional sunlight by native species.

## Honeysuckle Aerial Spraying Checklist

The following is a checklist of things to be aware of pre and post aerial spraying.

- I. Advise neighbors and anyone who may be recreating on your property aware of the date that aerial spraying will occur.
- II. Use proper aquatic rated chemicals using the printed label rates for aerial application. Use of non-ionic surfactants is recommended in sensitive areas.
- III. Refrain from entering application area until after chemical label directions recommend re-entry.
- IV. Advise Aerial Applicator about any neighboring cover crops, cool season grass plantings, winter annual crops (wheat, rye), sensitive areas, or open water areas that the pilot needs to be aware of.
- V. Buffer areas for potential drift. Drift will be an issue with this type of application. If neighboring landowners are receptive to treatment, treat to edge of property.
- VI. Ensure most native vegetation is in dormancy and the majority of the canopy of the forest has lost its leaves. This allows chemical to get down to the ground layer.





## Future Considerations

- Stems that are damaged or weak from initial treatment can be killed through additional treatments (Prescribed burning, follow up treatments).
- Current plan
  - Aerial Spray In Fall.
  - Rx Burn following Spring.
  - On the Ground Follow-up Summer – Fall.
- Goal: Get 3 NNIS Treatments for < \$200/ac
  - Aerial Application: Bids from \$28-64/ac = \$50 ave.
  - Prescribed Burning: Costs \$25-75/ac = \$50 ave.
  - Follow-up Treatment – Medium to low infestation: Costs \$50-150/ac = \$100 ave.





# Conclusion

- Removal of invasives and management for natives improves:
  - Water quality
  - Wildlife Habitat for a variety of species.
  - Soil fertility by reducing soil erosion
- Full Farm Focus – Ag and other areas.
- Leaves natural heritage intact for future generations.





# Questions?

